

Appl. No.: 10/709,872
Amdt. Dated: 10/3/2007
Reply to Office action of: 04/04/2007

AMENDMENTS TO THE DRAWINGS:

There are no amendments to the drawings presented herewith.

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REMARKS/ARGUMENTS

Claims 1 – 7 remain in this application. Claim 1 has been amended using proper claim structure as well as correct minor typographical and grammatical errors. New Claim 22 is the improperly claimed alternative embodiment of original claim 7. Claims 9 – 12 and 14 – 21 have been amended to correct minor typographical and grammatical errors as well as more properly define the elements of Applicant's claimed invention.

No new matter has been introduced by these amendments to the specification, and claims.

Claims 2 – 7 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner states:

Claim 2 is indefinite because it is unclear how amino compound (II) is made from compounds I and II, and how compounds I, II and V are reacted together, when compound V is a preferred embodiment of compound II.

Claims 3 – 7 recite the limitation "the base fuel". There is insufficient antecedent basis for this limitation in each claim.

Applicant respectfully traverses this rejection. By this amendment the phrase "the base fuel" has been removed and the claims now properly identify what Applicants' additive is added to. Claim 2 has been canceled. In view of these amendments to claims 3 – 7, and the canceling of Claim 2, these rejections are now moot and Applicant asks that they be removed.

Claims 1 and 3 – 7 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson ('723). Specifically, the Examiner states:

Nelson ('723) discloses a motor fuel additive composition comprising a mixture of (a) from about 5 to about 50 percent of a detergent component, wherein the detergent component is the same as that of the instant claim 1, and a fuel conditioner component, comprising (i) from about 2 to about 50 percent of a polar oxygenated hydrocarbon, having an average molecular weight, acid number, and saponification number the same as that of instant claim 1, and (ii) from about 2 about 50 percent of an oxygenated compatibilizing agent, wherein the solubility

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parameter and hydrogen-bonding capacity is the same as that of instant claim 1 (col. 3, line 13 – col. 4, line 15; claim 1). Further, preferred embodiments of the amino compound reactant of formula (II) are given in Table 2, such that $Y=NR_5$. The additive composition is added to a base fuel in amounts between 50 ppm and 2000 ppm (col. 10, lines 44 – 50; col. 11, lines 14 – 20).

Nelson ('723) does not disclose: (i) addition of the additive composition to a base fuel simultaneously, before, or after other additives, and (ii) specifically a diesel fuel additive composition.

With respect to (i) above, regarding claims 3 – 5, although Nelson ('723) does not disclose the addition of the additive composition to a base fuel simultaneously, before or after other additives, it is noted that "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process", *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Further, "although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product", *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). See MPEP 2113.

Therefore, absent evidence of criticality regarding the presently claimed addition of the additive composition to a base fuel simultaneously, before or after other additives and given that Nelson ('723) meets the requirements of the claimed composition, Nelson ('723) clearly meets the requirements of present claims 3 – 5.

With respect to (ii) above, it is the examiner's position that although the additive composition is not directed specifically towards a diesel fuel, the disclosure of motor fuel encompasses diesel fuel, since diesel is a type of motor fuel. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention by applicant to utilize the composition of Nelson ('723) as a

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diesel fuel additive composition because of the generic usage of the term motor fuel in Nelson ('723).

Applicant respectfully traverses these rejections. The key to Applicant's invention is the discovery of the claimed diesel fuel additive that accelerates the combustion phenomenon and reduces ignition delay in diesel engines thereby reducing or eliminating a major problem of diesel fuel impurities commonly found in such diesel fuel as well as the claimed fuel additive synergistically interacting to reduce particulate emissions and increase Cetane number. Furthermore, in light of the fact that diesel fuel tends to have impurities form during storage through oxidation as well as being formed by insoluble materials resulting from diesel fuel production, the fact that a class of additive compound will provide benefit to a gasoline composition does not suggest that it will also provide the unexpected synergistic benefits in diesel fuel. Additionally, the time of adding a highly oxygenated polar compound to a material that is detrimentally affected by oxidation is also not obvious or suggested by the art.

A fair reading of the Nelson ('723) reference discloses an additive package for motor fuel having any anti-knock materials previously blended into the base motor fuel before the addition of the additive package of Nelson ('723). Because of the unpredictable nature of organic compositions that are easily oxidized or otherwise prone to producing unwanted impurities through reaction with additives, a situation well known in the diesel fuel art, it is not obvious to be able to utilize a compound similar to one suitable for gasoline in a diesel fuel. Furthermore, the Nelson ('723) provides no teaching of a reduction of particulate emissions, which is not a major consideration in gasoline fuels. In contrast Applicant's claimed invention does provide such teaching in, for example, in Examples 1 – 3 (paragraphs [0059] – [0086]).

Clearly, when viewed in this light the Nelson ('723) reference does not disclose, teach, or suggest the use of a diesel fuel additive that accelerates the combustion phenomenon and reduces ignition delay in diesel engines thereby reducing or eliminating a major problem of diesel fuel impurities commonly found in such diesel fuel as well as the claimed fuel additive synergistically interacting to reduce particulate emissions and increase Cetane number.

Claim 1 was rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6488723. Although the

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conflicting claims are not identical, they are not patentably distinct from each other because of the reasons set forth below. Specifically, the Examiner states:

US 6488723 discloses a motor fuel additive composition comprising a mixture of (a) from about 5 to about 50 percent of a detergent component, wherein the detergent component is the same as that of instant claim 1, and (b) a fuel conditioner component comprising (i) from about 2 to about 50 percent of a polar oxygenated hydrocarbon having an average molecular weight, acid number, and saponification number the same as that of instant claim 1, and (ii) from about 2 to about 50 percent of an oxygenated compatibilizing agent, wherein the solubility parameter and hydrogen-bonding capacity is the same as that of the instant claim 1.

US 5488723 does not disclose specifically a diesel fuel additive composition.

It is the examiner's position that although the additive composition is not directed specifically towards a diesel fuel, the disclosure of motor fuel encompasses diesel fuel, since diesel is a type of motor fuel. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to utilize the composition of Nelson ('723) as a diesel fuel additive composition.

Claim 1 is directed to an invention not patentably distinct from claim 1 of commonly assigned US 6488723. Specifically, although the conflicting claims are not identical, they are patentably distinct from the reasons set forth in paragraph ** above.

Applicant respectfully traverses these rejections. The key to Applicant's invention, as mentioned above, is the discovery of the claimed diesel fuel additive that accelerates the combustion phenomenon and reduces ignition delay in diesel engines thereby reducing or eliminating a major problem of diesel fuel impurities commonly found in such diesel fuel as well as the claimed fuel additive synergistically interacting to reduce particulate emissions and increase Cetane number. Furthermore, in light of the fact that diesel fuel tends to have impurities form during storage through oxidation as well as being formed by insoluble materials resulting from diesel fuel production causing diesel engine combustion phenomenon and higher particulate emissions, the fact that a

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class of oxygenated additive compound will provide benefit to a gasoline composition does not suggest that it will also provide the unexpected synergistic benefits in diesel fuel. Additionally, the time of adding a highly oxygenated polar compound to a material that is detrimentally affected by oxidation is also not obvious or suggested by the art.

Clearly, when viewed in this light the Nelson ('723) reference does not provide the necessary basis for a non-statutory obviousness-type double patenting rejection.

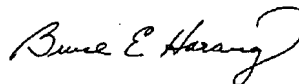
Kindly consider the following the necessary showing of common ownership under 35 U.S.C. 103© and 37 CFR 1.78(c). The invention claimed in this application (no. 10/709,872) and the invention patented in the Nelson (6488723) patent both have at all times been 100% commonly owned by the same assignee, namely Polar Molecular Corporation, a Delaware corporation, at the time the invention in this application (no. 10/709,872) was made.

Clearly, when viewed in this light the Nelson ('723) reference and the claimed invention are patentably distinct.

Applicant notes the references cited by the Examiner but not used as a basis of rejection. In view of these references not being a basis of rejection, Applicant makes no further comment about them.

In view of the remarks herein, and the amendments hereto, it is submitted that this application is in condition for allowance, and such action and issuance of a timely Notice of Allowance is respectfully solicited.

Respectfully submitted,



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Attachments